

Abstract
Hydrogen Generator For
Hydrogen Desulfurization of Hydrocarbon Feeds

5 A hydrogen-rich reformat gas generator (36), such as a mini-CPO, POX, ATR or other hydrogen generator provides warm, dry, hydrogen-rich reformat gas to a hydrogen desulfurizer (17) which provides desulfurized feedstock gas to a major reformer (14) (such as a CPO) which, after processing in a water-gas shift reactor (26) and preferential CO oxidizer (27) produces hydrogen-containing reformat in a line (31) for use, for instance, as fuel for a fuel cell power plant.

10 The expensive prior art hydrogen blower (30) is thereby eliminated, thus reducing parasitic power losses in the power plant. The drier reformat provided by the small hydrogen generator to the hydrogen desulfurizer favors hydrogen sulfide adsorption on zinc oxide and helps to reduce sulfur to the parts per billion level.